

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

Figure 4 is a schematic of a conventional two-channel combiner with longer lines combining outputs.

Figure 5 is a cut-away view of a conventional ceramic resonator using common output coaxial resonator.”

IN THE CLAIMS:

The claims are amended as follows:

1. (Once Amended) A combiner, comprising:

a common port;

a plurality of cavity resonators;

a plurality of apertures;

a combining mechanism operably connected to said common port and coupled to said plurality of cavity resonators through said apertures; and

at least one edge pair of cavity resonators,

wherein said outputs of said edge pair of resonators are operably connected to said common port through half-wave transmission lines.

3. (Once Amended) A combiner, comprising:

a common port;

a plurality of cavity resonators;

a plurality of apertures;

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

a combining mechanism operably connected to said common port and coupled to said plurality of cavity resonators through said apertures, wherein said plurality of cavity resonators comprises:

at least one edge pair of cavity resonators; and

a central pair of cavity resonators, wherein said outputs of said edge pair of resonators are operably connected to said common port through half-wave transmission lines and said center pair of resonators is operably connected to said central junction.

6. (Once Amended) The combiner according to claim 2, wherein said transmission line is a strip.

13. (Once Amended) The combiner according to claim 10, wherein said transmission line is a strip.

17. (Once Amended) The combiner according to claim 11, wherein said transmission line is a strip.

The following new claims are added:

24. (New) A combiner, comprising:

a housing;

a cable connector disposed on a side of said housing;

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/026,453
Attorney Docket: A8179

at least two adjacent cavities, said cavities enclosed in said housing and separated from each other by a cavity wall;

at least two cavity resonators, each of said cavities having at least one cavity resonator disposed therein;

a plurality of apertures, each of said cavities having at least one aperture formed in a side of said housing, said side being the same side on which said cable connector is disposed.

a combining mechanism connected to said cable connector and coupled to said cavity resonators through said apertures; and

wherein said resonators are connected to said cable connector through half-wave transmission lines.

25. (New) A method of combining a plurality of signals using a combiner having a housing enclosing at least two cavity resonators in separate and adjacent cavities, said housing having a cable connector disposed on and at least two apertures formed in a side wall of said housing, wherein each of said cavity resonators has a corresponding aperture, and said connector connects to each of said resonators through said apertures via a conductor, said method comprising:

coupling signals carried on said conductor through said apertures; and

combining said signals into signal pairs using transmission lines of length equal to or less than a quarter-wavelength.